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ABSTRACT

This career planning guide is intended for precollege students with disabilities who desire careers in science, mathematics, or engineering. The booklet reflects the experiences and advice of 286 individuals with disabilities who are in these careers or preparing for them. The first section summarizes the advantages of a career in these fields, such as earning a good salary and contributing to society. The second section helps students evaluate themselves through considering what interests them, who they admire, what they read, and what they do for fun. Next, suggestions are offered for seizing opportunities toward the student's career goals, including finding out about summer programs, joining a school club, and finding a mentor. The following section asks students to evaluate whether they have the personal qualities, such as determination and self esteem, to be a successful scientist. Keys to success identified by scientists include asking for help when needed, asking teachers to teach to one's strengths, pushing oneself to the limit, trying new things, and seeing disability as the mother of invention. The final section gives specific tips on getting started, emphasizing guidelines for choosing a college. Interspersed throughout the booklet are photographs of successful individuals with disabilities and quotes giving their advice. (DB)

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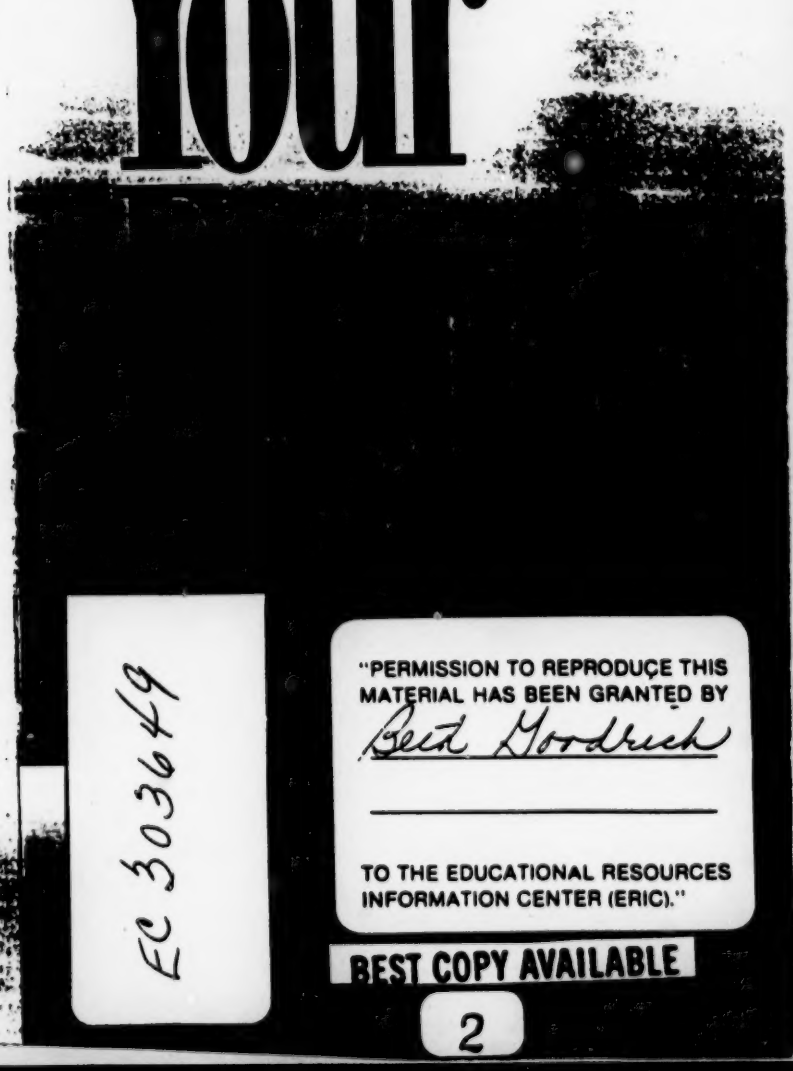

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Find Your Future

A career-planning guide
in science, mathematics,
and engineering
for precollege students with disabilities
and the adults who work
with them

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American Institute for Research

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Thinking about Your Future

It's 2000: Where are you?

Imagine yourself in the year 2000. What kind of job will you have?

You might be

- developing computer programs for the 21st century,
- designing medicines to help cure diseases like cancer,
- finding ways to warn people about impending earthquakes, or
- discovering ways to make crops resistant to disease and drought.

Where do you find interesting jobs like these? In a variety of settings and places: in universities, research centers, small businesses, large corporations, laboratories, government agencies, hospitals, outdoor areas, and homes. These jobs are possibilities if you pursue a career in science, mathematics, or engineering.

Why science?

"Science is fun, exciting and beautiful."

Scientists, like the one just quoted, do find their work exciting. Mathematicians talk about the "elegance" and challenge of the world of mathematics. Engineers find satisfaction in using their knowledge of science and mathematics to solve practical problems. As we near the year 2000, our society needs more people who can manage the ideas of science, mathematics, and engineering. This knowledge is crucial in many careers.

What could choosing a career in science, mathematics, or engineering do for you? Such a career can help you

- **Support yourself.** The most obvious benefit is the salary—the means for paying your own way and being independent.
- **Exercise your mind.** You can develop your mental abilities, and you can continue to grow intellectually throughout your career.
- **Gain recognition and respect.** As a scientist, mathematician, or engineer, you can be respected for your brains and for your valuable work. This respect comes not only from within your own field but from members of the outside community as well.
- **Meet a wide variety of creative people.** They can make your life more interesting.
- **Make a contribution to society.** You can make a difference: you can help solve some of the world's serious problems, extend our knowledge, and enrich our lives.

Robin I. Welch, Ph.D., Group Lead, Systems Engineering, Lockheed Missiles and Space Company, paraplegic

Could you have a career in science, mathematics, or engineering?

Could you have such a career? Why not! These fields include women and men from

- all ethnic backgrounds,
- all parts of the country,
- farms, small towns, and cities.

Some cannot see; some cannot hear; some cannot move their arms or legs; some are very short; some have "hidden" disabilities. None of them says it's easy; **all of them** say it's possible. If they can do it, so can you!

"Having a disability doesn't really make a difference, especially in the way a mind functions."

These fields all require you to use your **mind,** not necessarily your body. If you like intellectual challenges, you should consider a career in one of these fields.

Whose ideas are in this booklet?

This booklet reflects the experiences and advice of 286 individuals with disabilities who are actively involved in science, mathematics, and engineering, either as working professionals or college students. Each of them was interviewed at length for the research study that formed the foundation of this booklet. They offer you advice that is based on their own experiences.

"It's important to have someone who will help you to stretch toward your dream."

Statements like this one are the words of these working professionals and college students. They shared their ideas during

interviews in order to help you reach your dream.

What do we mean by scientists?

In this booklet the term *scientists* refers to all of the men and women we interviewed. They work in many careers. Here are a few:

- anthropology, aquatic ecology, atmospheric science, life sciences, biochemistry, biology, chemistry, geology, physics, physiology
- medicine, nursing, pathology, epidemiology, medical technology, occupational and physical therapy
- psychiatry, neuropsychology, psychology, speech pathology
- mathematics, computer science
- robotics and various types of engineering, including biomedical, electrical, mechanical, and rehabilitation engineering.

Summing up:

Which reward of a science career interests you most?

- Earning a good salary
- Solving problems with your mind
- Having recognition and respect
- Meeting interesting people
- Contributing to society.

To help you focus on a science, mathematics, or engineering career that might be right for you, let's first look for clues in your past.

Looking for Clues in Your Past

What do you find interesting?

How can you tell what you would like to do for a career? What are your interests and where can they lead you?

Think about special experiences in your past and the people who were involved in them. They can give you clues about possible careers; for example—

Have you met a teacher you admire?

Have you had a teacher who made a class especially interesting? Many of the scientists said they became interested in science because of exciting teachers.

Cedric James, chemistry undergraduate and Remedial Education teacher, Herbert H. Lehman College, City University of New York, deaf

One woman described a math teacher who refused to excuse her from board work because she uses a wheelchair. The teacher challenged her by saying, "I'll write on the chalkboard but you tell me what to write." The woman found that she liked math and was good at it!

Other scientists described high school

biology teachers who made science come alive for them. Others talked about college professors who made their students want to learn more and more. Do you have teachers like this? Not every teacher can interest you in a subject, but some can. When you find teachers like this, ask them questions. Find out why they find their subjects exciting.

Do you like what you do in class? If so, ask what careers involve similar activities. If your teachers can't answer all your questions, ask them where you can get information. Books and people can lead you to exciting areas of study.

What have you read or seen that interests you?

What are your favorite books and TV programs? Are there any that really made an impression on you? Sometimes they give you clues about the kind of career you would enjoy.

"When I was young, I got recorded books through the regional outlet of the Library of Congress. I especially liked the science fiction."

The science fiction fan quoted above became a physicist. Another scientist said he first became interested in science because of Isaac Asimov's books.

One scientist said that when he was eight or nine, he watched the people in the control room during a rocket launch on TV and became interested in the space program. Someone else was influenced by the Jacques Cousteau programs about the sea.

An aeronautical engineer visited the Smithsonian Museum's Air Exhibit as a high

school student and liked everything he saw. All of it interested him. He knew then exactly what he wanted to do.

What images stay in your mind? What have you seen or read that made you think,

- "I'd like to do that" or
- "I'd like to know more about that"?

The more you read and observe, the more possibilities you begin to see. When you find a book or program that especially interests you, begin to consider it as a possible career area. Ask yourself, How could I get involved in something like that?

What do you do for fun?

The things you do for fun can give you clues about what you might like as a career. Do you like to take things apart? Fool around on a computer? Explore in nature? Work with a chemistry set? Read?

One scientist, who is blind, remembers happy times in the fourth grade when he helped a neighbor "tinker" in the garage. He fixed and rebuilt electronic equipment, motorcycles, and cars—and learned how to apply math for the first time.

As a child, a chemist developed her observational abilities by collecting spiders, putting them in large jars with breathing holes, and watching how they spun their webs.

A computer science major first became interested in computers by playing games on them. Then he tried programming them and found a career.

Think about what you like to do in your free time. How does it make you use your mind? Does it involve building or fixing

things? Could the activity lead to a science career?

Who are the people you admire?

Think about the people in your past, especially those whose work you admire. What is it about their work that appeals to you? How can that apply to your career?

A physician who is blind said that as a child he was impressed by his doctor. His interest developed from that experience.

An engineer said that as a teenager she liked spending time with her dad, and she admired the work he could do. She helped him build an addition to their house and learned to do wiring, plumbing, plasterboard, and construction work. It helped her decide on a career in engineering.

A college student spent lots of his spare time as a child around airplanes and airports so he could be near his dad, a pilot. The student visualized himself in different roles related to flying. He saw how important weather is for flying and decided to study meteorology.

"Let your imagination run wild. Visualize yourself in different roles."

Whose work do you admire? Can you visualize yourself in their roles? Possibly your parents might be good role models to consider first. Or maybe teachers, relatives, or adult friends. What are their careers? Ask them these questions:

- How do you spend an average day at work?
- What do you like most about your work?
- What do you like the least?

- What skills, interests, and education does one need for this work?

Compare your interests and abilities to theirs. You may not want the same career, but you might get an idea about another career that may be right for you.

What people have jobs that sound special to you? Ask around and learn about as many interesting jobs as you can. Ask people what they do; watch them at work, if possible. Ask yourself, Is this something I would like to do?

Summing up:

What are the clues in your past?

- Who's the most exciting teacher you've had? What's the most interesting subject?
- Have any books, movies, or TV shows made you curious about certain jobs or work places?
- Do you have a hobby or special interest that might point you toward a career?
- What people have jobs that you'd like to know more about?

Now that you've looked at your past, let's see how you can create opportunities to help you decide on a career.

Seizing Opportunities

"When opportunities arise, make the most of them. Reach out—take advantage of what's out there."

What opportunities are "out there"?

To make a good choice of careers, you need as many ideas and experiences as possible. How do you get opportunities to learn and do things? Sometimes you need to create these opportunities yourself. Other times all you have to do is take advantage of what's available. Either way, you need to take an active role.

The scientists created and found a wide variety of opportunities. Are those opportunities available to you? Yes! Here are some of them.

Ask about summer programs

Summer programs are offered by many different agencies: high schools, community colleges and universities, government agencies, and businesses. As a high school student, a scientist took a college course in biology as part of a special summer program. She liked the labs and classroom work and got an idea of what college would be like. She gained confidence as well as knowledge.

Many of the summer programs would give you a chance to get away from home and discover who you are. Several college students recommended summer programs that the National Science Foundation (NSF) sponsors for high school students.

Are there special programs in your area? Probably. Check out the courses at magnet schools and special summer offerings at local

community colleges and universities. Write the schools for information.

Paul Kemp, zoology graduate student, University of Washington, quadriplegic

Get involved in outside activities

A good way to gain ideas, skills, and experience is to get involved in extracurricular activities—clubs or teams that enable you to pursue interests and develop skills. Although these activities may not relate directly to science, they help you develop as a person and help you realize your interests and abilities.

One scientist remembers going on Boy Scout camp-outs—in his wheelchair. He found that he learned about the outdoors and gained independence. A student with a hearing impairment found that the Chess Club helped him learn to think logically and strategically.

Other scientists talked about being in computer clubs, science clubs, and other school-sponsored groups. They found that these groups helped them develop more interests and learn more about the world. Those experiences also helped them enter the colleges of their choice.

You might explore opportunities for volunteer work—in a hospital or nature center, for example. It's a good way to help others while you help yourself gain experiences and interests.

"Get involved. You may find a hidden talent."

What activities are available to you?

Find ways to do science

A great way to find out if you want a science career is to get experience actually "doing" science.

"Experiencing science is so much better than learning about it!"

Here are some places to do science.

Science classes. This is an obvious place to do science. It's also important. Scientists urge you to take as many science and math classes in high school as you can. The classes will help you find out what kind of work you enjoy, prepare you for college, and increase your knowledge.

In your classes, take advantage of everything offered. On field trips, take a good look around and ask questions. Imagine what it would be like to work at the places you visit. One scientist said she first became interested in medical technology (her field) because of a tour of a hospital lab. You might find a job or a place you'd like to work too.

"Start by doing small projects like science fair projects that are your own. They're great confidence builders."

Science fairs. Schools in most areas have science fairs—or can tell you how to

enter one nearby. A scientist said she was reluctant to enter the science fair when she was in school, but her biology teacher encouraged her. She entered, won first in her region, and went on to state competition.

You say you couldn't win? Maybe not, but you can "win" a lot of good experience. When you develop a project, you're **doing** science, instead of just reading about it. You'll get a taste of what it means to be a scientist.

Lab work. One scientist said that as a teenager she had to spend a lot of time in the hospital getting treatments related to her orthopedic disability. Out of boredom, she went to the lab and asked to volunteer. She gained both knowledge and a bit of self-confidence.

Carol Raugust, MS, Licensed Clinical Technologist, Alameda County Health Care Services Agency, quadriplegic

If you know people who work in labs, ask if you can observe them at work. If what you see interests you, volunteer to help them. They're more likely to accept your offer if you can suggest something specific you can

do to help. Once you've shown what you can do, they may think of other ways to let you get experience.

Intern programs. Some businesses have intern programs that give students a chance to gain work experience. Several scientists were in these programs in high school and college. They found the internships valuable because they learned what it was really like to work in those businesses—the good and bad parts.

Are intern programs available in your area? Find out from your school counselor, the Chamber of Commerce, or other local business groups and consider applying. You'll gain skills and, more important, you'll learn what it's like to work.

Part-time jobs. You can learn from doing any kind of a job. If you can't find a job that involves science—either assisting scientists or observing them—find the best substitute you can. In some cases, the job may seem totally unrelated. However, almost any job can

- let you show some of your skills and
- help you build supporters, advocates, and others to advise you.

This will make it easier for you to get someone to hire you to do something you really want to do. It will also help you know more about yourself—what you can do, what you like to do, and what you want to do in the future.

Find a mentor

A person who supports and guides you is a **mentor.** *Mentor* literally means "a wise and trusted teacher or counselor," but teachers and counselors aren't the only people who

can be mentors. Any person who supports and guides you can be a mentor—for example, a parent, a friend, or a work supervisor.

A mentor can be very important in helping you gain experience and plan your future. How? The scientists suggested many ways.

Mentors can

- tell you about their jobs: what they do, what they like—and don't like—about their work,
- direct you toward resources, such as financial aid, services for students with disabilities, assistive technology, and summer programs,
- help you overcome barriers, for example, write a letter to skeptics about your abilities, and
- encourage you, helping you define your dream and find ways to achieve it.

"It's very important to find someone who is very supportive and who will back you up when you need it."

Lisa Rapalyea, biological science and psychology undergraduate, University of California at Davis, deaf

Mentoring isn't something you can demand; it's more like a special friendship that's freely given. You can ask people for advice if you respect them and think they can help. If you deserve and appreciate help, that person may become a mentor.

Summing up:

How can you create opportunities?

- Contact local community colleges and universities to see about summer programs.
- Join a school club like the Computer Club or get involved in an activity like the school newspaper or yearbook.
- Participate in a science fair, get a part-time job (either paid or volunteer), or get more involved in lab work.
- Find a mentor—or at least figure out who might be one.

Now let's see what it takes to be a scientist.

Knowing What It Takes

Let's suppose you have looked at your past and have taken advantage of opportunities to learn more about yourself and what you want to do. Do you think you might want to be a scientist, mathematician, or engineer? What does it take? Let's look at five questions you should consider.

1. Are you determined?

Scientists say that determination is a critical part of success.

"Never let anyone tell you you can't, because you can. Desire is 99% of the mission. Go get it. Nothing can stand in your way."

You have to **want** the career and be persistent in going after it. When you face difficulties—and all of the scientists warn that you will—you have to be determined to overcome those difficulties.

"There is no magic. It's all in getting in there and not giving up."

You have to provide the magic and the determination. It is up to you to show that you have what it takes.

2. Are you willing to get a college education?

Education is essential for a career in science. To be a scientist, you must have the academic preparation to do college work. This doesn't mean that you have to get straight A's in every subject, but you need to perform at the average level or better in college.

"Go to college—not for the money but for the ability to do something."

You need a bachelor's degree to do almost anything in science—a master's or doctorate is much better. You can go four or five years, get your bachelor's degree, and work for a while. After you decide on a career, you can go back and get an advanced degree.

Jeffrey Tran Lucas, computer science undergraduate, Stanford University, paraplegic

"College opened an entire new world to me."

College can open a new world to you, too.

3. Do you believe in yourself?

Are you self-confident? The scientists stressed the need to **believe in yourself.** They know how hard it can be, but they also know how much can be achieved.

"It's how you feel about yourself that really matters. If you believe in yourself, others will, too."

There may be some things you simply cannot do, things that your disability prevents you from doing. Many of the scientists suggested that you focus on what you **can** do; not on what you can't do.

"It's amazing what you can do when you don't know you can't."

If you believe in yourself, the scientists said, you'll find a way to reach your goals.

4. Are you curious?

Do you like to ask questions? Is "Why" one of your favorite words?

"If you choose science, realize that a scientific researcher is always a student, always learning. Science requires curiosity and creativity more than a quantitative mentality."

Curiosity is important for scientists; it's often what drives them. They want to know **why** certain patterns of numbers occur; **why** an organism behaves in a certain way; **what** kind of material solves an engineering problem.

"In science, what matters is not so much what you do with your hands, but what you think about the results."

If you are curious, you may find science an exciting way to find answers.

5. Are you creative?

How good are you at finding creative ways to do what you want to do? When someone says "no," what do you usually do?

"If someone says 'No,' say, 'We'll see.' Go past the word no. Use it as a positive way of getting ahead."

As persons with disabilities, the scientists who were interviewed for this booklet were well acquainted with the word *no*. "No," some parents said, "we don't think you should try that." "No," some counselors said, "we don't think you can do that." "No," a teacher said, "I don't think that's a realistic plan for you." The scientists listened to the people who said, "Yes" and helped them believe in themselves.

To be successful in a career, the scientists say, you must seek out people who will encourage you. When someone suggests that you can't do something, you need to find people who think you can. Can you do that?

Summing Up:

Do you have what it takes to be a successful scientist?

- Are you determined?
- Are you willing to go to college?
- Do you believe in yourself?
- Do you like to ask "Why?"
- Can you find creative ways around problems?

If you said "Yes" to all of these questions, all right!

Next you'll learn some of the ways that scientists with disabilities turned "no" to "yes."

Learning from the Success of Others

What can you learn from the scientists? They have found a variety of ways to achieve success. Here are some of their ideas.

"Be as independent as you can, but ask for help when you need it."

Do you tell people what you need and what you can do? The scientists gave this piece of advice over and over again: **tell people what you need; tell people what you can do.** They applied this advice to many situations.

Do you talk with your teachers?

As students, the scientists found it useful to meet with teachers, especially early in the school year, before the start of the term. The students described exactly what they needed, clearly and specifically, and asked for the teachers' help as needed.

"You can't ask them to change the world for you. You can and should ask them to teach to your strengths."

How do you get teachers to teach to your strengths? How do you get them to help you be as independent as you can be? Here are some examples.

- A student with a vision impairment asked teachers to say the words they were writing on the chalk board.
- Students who are blind found that the earlier they got book lists the better. It often takes months to obtain Braille or recorded editions. So they talked with

teachers well in advance to find out what books they would need.

- A student with a reading disability had problems with timed tests and arranged for more time.
- A student who is deaf arranged to fulfill her public speech requirement by doing work in the school's speech clinic.

Most often, teachers will help when they know what you need and why. Sometimes they won't help. Then you try something else.

Can you ask for help when needed?

The scientists do as much as they can for themselves, but they ask people for help when necessary.

"Get the help you need. Don't be so stubborn about succeeding that you shortchange yourself and put yourself at a disadvantage."

The people who can help you may be school administrators or supervisors, but often they are classmates or co-workers.

Kevin Headd, Jr., geology graduate student, East Carolina University, burns

Here are some ways people tell others what they need:

- A student who is quadriplegic said he asked other students to open doors for him—and made new friends in the process.
- A student who is deaf found it hard to read lips when the teacher used scientific terms; the student asked a hearing student to share class notes.
- For a class project, a student with a vision impairment paired up with a student for whom English is a second language. With their combined strengths and efforts, they earned an A on their project.

As one of the scientists pointed out, you can share work with a colleague who does not have a disability and still maintain your own identity. Do what you can for yourself but ask for help when you need it.

Are you willing to take risks?

How do you feel about taking risks?

"Push to your limits so you know what they are."

The scientists found it was important to take risks and try new tasks and explore new areas. They take risks and "push to their limits" in a variety of ways. Often they find success. Here are a few examples:

- A student with a learning disability disliked high school and was ready to drop out but decided he wanted more out of life than he would have as a drop out. He went to his school's learning center and asked for help in planning how to finish high school. He helped to work out a plan and

followed it. He's now a biology major in college, likes school, and plans to have a career in a medical field.

- A mechanical engineer with a spinal cord injury has been able to get physical barriers to his wheelchair removed. He writes letters to people at "the highest level possible," clearly stating the problem and a solution. He gets results!
- A student with a mobility impairment was frustrated with the solutions proposed by her orthopedic surgeons. She decided to address the problem and pursued biomedicine so that future generations will have better options.
- A scientist with neuro-spinal injuries and leg braces could not stand at a lab table to conduct experiments and tests. With a window washer's belt attached to the counter, she's now able to do her work.

"Try something new. If you don't like it, you don't have to do it again. If you do, you've learned something."

Sometimes the scientists didn't succeed, but they felt it was worth the effort. One advised you to assume you can do anything; even if you're wrong, you learn more than by thinking that it was impossible.

Are you informed about your rights?

Are you aware of your rights as an American citizen and a person with a disability? What do you do when your rights are denied? Among the scientists, attitudes varied about when and how to fight back. Most regarded legal action as a last resort, to be used only when other means have failed.

Judith Ann Pachciarz, M.D., Ph.D., Physician/ Laboratory Director, H. Claude Hudson Comprehensive Health Center, profoundly deaf

"Don't be self-destructive, but fight back when you know you're right and when you have the power."

The Americans with Disabilities Act is an important law that affects employment, transportation, public accommodations, and telecommunications for all Americans with disabilities. The Disabled Student Services office on campus can tell you about this law.

It's important for you to know the laws and know what resources are available to you. By using reason and persistence for what you know is right, you can help ensure that the laws are enforced.

Can you recognize a no-win situation?

How do you handle a hopeless situation? The scientists interviewed for this booklet described experiences where they simply **couldn't** succeed, even with determination, effort, and strong action. Sometimes it involved a biased professor; sometimes it was a physical barrier they simply could not overcome. What should you do?

"You can only control how you feel; you can't control how others feel or how they react to your disability."

When their best efforts failed, the scientists simply faced reality and went on to something else. They got on with their lives and building their futures.

"If you're in a situation where your disability prevents you from making an appropriate contribution, walk out, wheel out, or whatever."

Another scientist said that the best approach is to move ahead, focusing your energy on something you can accomplish. This may mean finding another class, locating a place that is barrier-free, or concentrating on people who are not prejudiced.

Can you try a more creative approach?

We've already talked about creativity as one of the characteristics you need for success. The scientists found novel ways to accomplish what they wanted to do. Some found that no adaptations were needed or only some minor changes; others needed creative approaches.

"Instead of saying, 'It can't be done,' ask how you can do it."

What are these creative approaches? The scientists found a variety of ways and people to help them.

- A physician with a mobility impairment uses a hydraulic stool made for engineers to give him access to a desk that his wheelchair can't provide. Another possi-

bility, he said, is a beauty salon chair that can be elevated with a foot pump.

- A physicist who is blind uses a relief photocopier to create graphic images he can feel.

Robert Van Etten, M.S.E.E., Rehabilitation Engineer and Owner, Adaptive Living, short stature

- An engineer with short stature could not reach the brake and gas pedals or control the full size steering wheel on a car. He designed extensions for the pedals and had a small hot rod steering wheel put on the car. Now he drives everywhere as part of his work.

Other scientists use computers:

- A college student who has difficulty with handwriting arranges to use a computer for essay tests.

- Another scientist, who is quadriplegic, can't gather field data first-hand, so he uses a special computer to analyze pictures taken in the field.
- A scientist with a vision impairment successfully uses both Braille and speech output from a microcomputer.
- A computer programmer with cerebral palsy uses the computer for his work and to create beautiful art for enjoyment as well.

"Disability can be the mother of invention!"

Can you invent solutions to problems? Finding creative solutions and helpful people can increase your opportunities. The scientists urge you to keep an open mind to new ways to work around your disability.

D. Kent Cullers, Ph.D., Signal Recognition Team Leader, Ames Research Center, NASA, blind

Summing up:

Which of these keys to success do you think is most important?

- Tell your teachers what your strengths and needs are.
- Express your needs clearly.
- Take risks.
- Be informed about your legal rights.
- Know when to drop one strategy and do something different.
- Find a fresh, new approach with your own ideas and the help of others.

Do you do all of these things? If not, it might be time to begin—before you begin on your career path.

Now let's see how you can get started in planning your career and your future.

Getting Started

"You are a student with your mind—not your body. It's like climbing a mountain, difficult but worth it. You don't start at the top; you go around and gradually up the sides."

How do you get started?

To start climbing your mountain, you need a good map: a clear idea of what's ahead and how you can conquer it.

Interview people about careers. We've already suggested some sources of career information: parents, relatives, and other adult friends. You can also include teachers, the parents of friends, visitors to your high school, guest speakers, and anyone else who can give you information about a possible career. Take advantage of any opportunities to interview people about their work.

Get written materials. Find books and other media that have information about careers that interest you. Ask your school counselor for information. Write to colleges for information about the education needed for science and engineering careers. If a particular company or business interests you, write to its home office and ask for information about jobs and the education or training needed for them.

Take special tests. Aptitude tests and vocational interest tests can help you identify possible career areas. Some computer software can help you with this, too. Ask your counselor or the counseling and placement offices of a community college about these possibilities.

Contact AAAS. AAAS (the American Association for the Advancement of Science) can give you information and direct you to other resources relating to disabilities and education. AAAS has a national center for concerns of people with disabilities in science and engineering. For more information, call 202/326-6630 (voice/TDD) or write:

AAAS
Project on Science, Technology and Disability
1333 H Street, N.W.
Washington, DC 20005

How do you choose a college?

You will need to go to college, but where? Many factors will affect your choice. Do you want to attend a large school or a small one? a public or private school? one close to home or far away?

What do you plan to major in? You don't have to know exactly what your career goal is, but you should narrow it down to an area like science or engineering. Once you know your area of interest, you can look for colleges.

As you consider each college, ask these questions about it:

Will I get a good education there? This is the most important question. You can talk with people who have attended the school, ask your counselors, and read various guides to colleges to get ideas about a college's academic reputation. You want to be sure that your time will be well spent and that you will get a quality education.

What special opportunities does it offer? Some colleges have unique programs, such as a special major, a program for honors

students, an internship or co-operative education program that may be right for you. The college catalog should give you this type of information. You can also make inquiries directly. For example, if you wonder about certain programs in engineering, call or write that department or institution for information.

What financial assistance is available? Financial aid of various types is available, including scholarships, grants, student loans, and co-op and work study programs. The amount available to you depends on your needs and qualifications and the resources of the college. If you need financial help to attend college, find out what different colleges will offer you.

Contact the Vocational Rehabilitation Office for your state. Have a clear idea of how the aid you seek will directly contribute to your getting a job in the career of your choice. Don't assume that you don't have a chance for aid until you try—you might be surprised at what's available.

What services are available for students with disabilities? Most colleges have a Disabled Student Services (DSS) office, with different types of resources for students with disabilities. The DSS office can help you make special arrangements, like obtaining parking permits or ensuring wheelchair access to classrooms and labs. DSS can provide tutors, interpreters, or readers, if needed. Some colleges offer special housing to accommodate the needs of students with disabilities.

Check out these services in advance to get precise information about what is available to you. Before you choose a college,

compare the various services and make sure that your needs can be met.

What experiences have other students with your disability had at this school? This should not be the only factor in your decision, but it's one you might find especially helpful. If you're interested in a college, ask the DSS office if there are other students with your disability who attend the college now and if you could talk with them. They can usually give you good ideas.

Christy Hill, B.S. in zoology from California State Polytechnic University, hearing and vision impaired

The scientists and students said that this contact was a good way to find out what you might experience. For example, a student who uses a wheelchair may tell you that winter on the campus is severe and that ice makes it difficult to get around or that walkways are cleared regularly and the ice is not a problem. A student with a learning disability may tell you that tutors and other assistance are readily available and excellent.

Your experience at the college may be different, but the views of other students with disabilities can help you know what to expect.

Students are usually happy to share their experiences so you can learn from them.

Summing up:

What's most important about a college for you?

- Size
- Location
- Costs
- Academic reputation
- Special programs
- Services for students with disabilities

However you choose a college, we hope that it leads to a satisfying career in science, mathematics, or engineering for you!

Remember, you have a lot to offer!

Afterword

A companion booklet, *You're in Charge*, helps students with disabilities make plans for college, particularly for courses in science, mathematics, and engineering. It suggests factors to weigh in choosing a college, the types of services that may be available for individuals with disabilities, and strategies for making the most of the college experience.

The Challenged Scientists: Disabilities and the Triumph of Excellence (published in 1991) profiles the individuals pictured in this booklet. The book also describes the interviews and research that served as the basis for this booklet and for *You're in Charge*. It is available from Praeger Publications, One Madison Avenue, New York, NY 10010.

The AAAS Resource Directory of Scientists and Engineers with Disabilities provides information on over 950 scientists and engineers with disabilities. It is available from AAAS Project on Science, Technology and Disability, 1333 H Street, NW, Washington, DC 20005; please call 202-326-6630 (V/TDD) for ordering information.

For more information, please contact:

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